

DETAILED ACTION

Status of the Claims

1. This is in response to applicant's amendment filed 2/23/10. Claims 34-46 are pending in the application.

Terminal Disclaimer

2. The terminal disclaimers filed on 2/23/10 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application Numbers 12/103,158 and 12/103,167, have been reviewed and are accepted. The terminal disclaimers have been recorded.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

4. Claims 34, 35, 36, 40, 41, 42, 43, 44, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (Nakamura; JP-A-H06-195056) in view of McCarthy et al. (McCarthy; US 6,477,464).

Regarding Claim 34, Nakamura discloses an onboard display device, comprising: a display section attached to an instrument panel of a vehicle (Abstract, [0006]-[0009]), said display section being greater in width than in height ([0010]), the aspect ratio being a width/height ratio of a display area of the display section, said display section including a first

part in which a secondary image including information other than information of the vehicle is displayed ([0008], [0013], [0014], Fig 10b, A1), and a second part in which vehicle condition image including information of the vehicle are displayed ([0009], [0015], Fig 10b, A3); and a display control section controlling individual manners in which the display section shows the secondary image and the vehicle condition images ([0020], [0021], [0027], [0040]), under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images (from Fig 4d to Fig 5b), and the vehicle condition images are displayed in a different manner *(there are many embodiments where the vehicle condition image is in a different manner, demonstrating the capability of the system)*.

The description in the specification allows for changes in the display that are suitable to a driver. It would have been obvious given the controlling means for the image ([0021]) and the motivation of improving visibility and safety (Abstract, [0035]) to have the capability to alter the image to a preferable state.

While the reference doesn't expressly teach an aspect ratio that is equal to or greater than 7:3, it does suggest ratios bigger than 4:3 including 16:9 ([0010]) and doesn't limit itself to that size ([0052]).

In the same field of endeavor, McCarthy discloses a mirror-based global-positioning system (GPS) navigation system on a vehicle. The interior rearview mirror assembly further includes a scrolling display. The scrolling display displays scrolling driver informational messages on the scrolling display. The interior rearview mirror assembly may include a global-positioning system display receiving an output from a global-positioning system receiving

system and displaying turn-by-turn information to a vehicle driver. The reference teaches the use of a GPS with a display having an aspect ratio greater than or equal to 3 (Col 7 Lines 55-64).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nakamura with McCarthy as a matter of design choice using readily available components as an alternative embodiment.

Regarding Claim 35, Nakamura discloses an onboard display device, wherein displaying the vehicle condition images in a different manner indicates displaying an image of a speed meter that is one of the vehicle condition images that can change the image from a circular-shape to a column-shape (*From Fig 4h to Fig 5b*).

While the reference doesn't expressly teach changing a speedometer reading from circular-shape to a column-shape, both are displayed in Fig 4h. The description in the specification allows for changes in the display that are suitable to a driver ([0040]). It would have been obvious to one of ordinary skill in the art at the time the invention was made given the controlling means for the image ([0021]) and the motivation of improving visibility and safety (Abstract, [0035]) to have the capability to alter the image to a preferable display.

Regarding Claim 36, Nakamura discloses an onboard display device, wherein displaying the vehicle condition images in a different manner indicates displaying an image of a speed meter that is one of the vehicle condition images that can change the image from a circular-shape to numbers (*From Fig 4h to Fig 5b*).

While the reference doesn't expressly teach changing a speedometer reading from circular-shape to numbers, both are displayed in Fig 4h. The description in the specification allows for changes in the display that are suitable to a driver ([0040]). It would have been

obvious to one of ordinary skill in the art at the time the invention was made given the controlling means for the image ([0021]) and the motivation of improving visibility (Abstract, [0035]) to have the capability to alter the image to a preferable display.

Regarding Claim 40, Nakamura discloses an onboard display device, wherein said display control section fixes one of vertical display lines of the secondary image at a left-hand side and a right-hand side of the secondary image and moves a vertical display line at an unfixed side so as to scale up the secondary image (*to go from the two images in 4d to the images in 5b there is a vertical line on the left that remains fixed and one on the right of the television image that changes so that the secondary image is scaled up*).

The description in the specification allows for changes in the display that are suitable to a driver. It would have been obvious given the controlling means for the image ([0021]) and the motivation of improving visibility and safety (Abstract, [0035]) to have the capability to alter the image to a preferable state.

Regarding Claim 41, Nakamura discloses an onboard display device, wherein the vehicle condition images include at least an image of a speed of the vehicle ([0009]), and an image of an amount of fuel ([0009]), and the secondary image includes at least a navigation image ([0013]), a camera image ([0008]), and an image of information useful for a driver or a passenger ([0015]). However, the reference doesn't specify an image of the gear shift.

Paragraph [0015] suggests numerous vehicle conditions being displayed on an image, a gear shift indicator is a common reading on vehicle displays. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the device adding an image of a gear shift.

Regarding Claim 42, Nakamura discloses an onboard display system, comprising: an onboard display device; an imaging device taking images to and near the front, rear, right, and left of the vehicle ([0008], [0015]); and a control device controlling imaging operation of the imaging device so that a front image, a rear image, a right-hand image, and a left-hand image ([0021], [0040]) taken by the imaging device are capable of being all simultaneously shown on the display section of the onboard display device ([0035]).

Regarding Claim 43, Nakamura discloses an onboard display system, comprising: an onboard display device; an imaging device taking an image to and near the rear of the vehicle ([0008], [0035], [0041]); and a display control device of which the onboard display device is under control ([0021], [0040]), shows a widthwise elongated image to and near the rear of the vehicle as taken by the imaging device at an aspect ratio more than or equal to 4:3 ([0010]). However, the reference doesn't specify upon a selection of a reverse gear selected to back the vehicle, showing a widthwise elongated image.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the device so that upon a selection of a reverse gear selected to back the vehicle, showing a widthwise elongated image, in order to guard against running into unseen objects behind the vehicle. Since a driver often needs assistance to see behind the vehicle it would be a desirable function, because the field of vision is hindered to the rear of a car.

The limitation concerning a ratio greater than 7:3 is addressed with regard to Claim 34.

Regarding Claim 44, Nakamura discloses an onboard display system, wherein under control of the control device, the imaging device operates in response to an ignition-induced start-up of an engine, so that a front image, a rear image, a right-hand image, and a left-hand

image are capable of being all simultaneously shown on the display section ([0008], [0015], and [0035]). However, the reference doesn't specify the imaging device operates in response to an ignition-induced start-up of an engine.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the imaging device operating in response to an ignition-induced start-up of an engine, as often when a driver first enters a vehicle he usually has a concern for avoiding obstacles surrounding the car.

Regarding Claim 45, Nakamura discloses a vehicle comprising an onboard display device (Abstract, [0006]-[0009]).

Regarding Claim 46, Nakamura discloses a vehicle comprising an onboard display system (Abstract, [0006]-[0009]).

5. Claims 37, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of McCarthy and further in view of Breed (US 7,126,583).

Regarding Claim 37, Nakamura doesn't disclose an onboard display device, wherein the display section includes 468 or more lines as pixel rows.

In the same field of endeavor, Breed discloses an interactive display system for a vehicle including a heads up display system for projecting text and/or graphics into a field of view of a forward-facing occupant of the vehicle and an occupant-controllable device enabling the occupant to interact with the heads up display system to change the text and/or graphics projected by the heads up display system or direct another vehicular system to perform an operation. The device may be a touch pad. A processor and associated electrical architecture are

provided for correlating a location on the touch pad which has been touched by the occupant to the projected text and/or graphics.

The reference discloses an onboard display device, wherein the display section includes 468 or more lines as pixel rows (Col 13 Lines 34-48).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nakamura and McCarthy with Breed as optimal resolution is a desirable option, granting significant advantages over other systems particularly in the resolution and optical intensity areas as suggested by Breed (Col 13 Lines 39-40).

Regarding Claim 38, Nakamura doesn't disclose an onboard display device, wherein the display section includes 1092 or more lines as pixel columns.

Breed discloses a display device, wherein the display section includes 600 pixels per column (Col 13 Lines 34-48).

Although the reference teaches 600 pixels per column, it is in the context that the more pixels in the column the more advantageous the image is to a driver. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nakamura and McCarthy with Breed as optimal resolution is a desirable option, granting significant advantages over other systems particularly in the resolution and optical intensity areas as suggested by Breed (Col 13 Lines 39-40).

No evidence presented is convincing that the particular configuration of the display is significant or is anything more than one of numerous configurations a person of ordinary skill in the art would find obvious for the purpose of providing a clear display for Nakamura. See *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459.

Regarding Claim 39, Nakamura doesn't disclose an onboard display device, wherein the display section includes 468 or more lines as pixel rows and 1092 or more lines as pixel columns.

The limitation concerning number of pixels in rows and columns is addressed with regard to Claims 37 and 38.

Response to Arguments

6. Applicant's arguments filed 2/23/10 have been fully considered but they are not persuasive for the following reasons:

Arguments:

- a. While the Examiner admitted that Nakamura et al. "doesn't expressly teach an aspect ratio that is equal to or greater than 7:3 ... , " the Examiner alleged "[McCarthy et al.] teaches the use a GPS with a display having an aspect ratio greater than or equal to 3 (Col 7 Lines 55- 64)." Thus, the Examiner concluded, "[I]t would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nakamura [et al.] with McCarthy [et al.] as a matter of design choice using readily available components." Applicant respectfully disagrees.
- b. Applicant's claim 34 recites the feature of "under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner." Neither Nakamura et al. nor McCarthy et al. teaches or suggests this feature.

c. As described in page 28, line 8 to page 29, line 4 of Applicant's specification, when the secondary image, such as a navigation image, is displayed at an increased scale so that the driver can easily see it, the vehicle condition images such as the speedometer, tachometer, and other displays are inevitably produced at reduced size. However, as can be seen in Fig. 13(b) of Applicant's drawings, if the vehicle condition images are displayed at reduced size while a meter corresponding to one of the vehicle condition images is shaped as a circle, a visibility of the vehicle condition images will be decreased so that driving safety will be impaired.

To correct this, in the presently claimed invention, the vehicle condition images are displayed in a different manner when they are shrunk, as shown in Figs. 12(a), Fig. 12(b), and Fig. 13(a), so that the visibility of the vehicle condition images in the display section which has the same aspect ratio is prevented from decreasing. Accordingly, the presently claimed invention provides the effect of a display that can be changed while ensuring improved visibility to the eye of the driver in the concurrent display of a secondary image and a vehicle condition image, and thus ensuring the driving safety of the vehicle.

This advantageous effect is particularly notable in case where the aspect ratio of the display section is set to 7:3 or more and the respective aspect ratios of the display area serving as the first part for displaying the secondary image and the second part for displaying the vehicle condition images are first set to 3:4 and 3:3, respectively. Then, when the secondary image is increased in size so that the vehicle condition images are decreased in size by the increasing secondary image, it is possible to change the display manner of the vehicle condition images while preventing the visibility of the vehicle condition images displayed at 3:3 from decreasing. Accordingly, by using this arrangement, it is possible to allow the driver to continue to drive

safely due to the continued readability of the vehicle condition images in spite of their decreased size. Nakamura et al. does not teach or suggest these features.

d. Nakamura et al. teaches a display device arranged to display various information in separate display regions A1, A2, A3, A4, as shown in Figs. 4(a)-5(f), 10(a), and 10(b) of Nakamura et al. However, Nakamura et al., merely teaches how to divide a static layout of the plural display regions A1, A2, A3, A4 of the display screen into plural display areas that have different scales.

e. Contrary to the Examiner's allegation, Nakamura et al. does not teach or suggest that the manner in which information is displayed on the plural display regions A1, A2, A3, A4 is changed.

f. For example, nowhere in Nakamura et al. is there any teaching or suggestion of switching a speed output displayed in an analog manner to a speed output displayed in a digital manner in response to a changing of size of one of the plural display regions A1, A2, A3, A4 of Nakamura et al.

g. Thus, Nakamura et al. clearly fails to teach or suggest the feature of "under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner" as recited in Applicant's claim 34.

h. McCarthy et al. merely teaches a scrolling text display 18, as shown in Fig. i of McCarthy et al. McCarthy et al. clearly does not teach or suggest the feature of "under control of said display control section, when the secondary image is displayed at an increased scale, the

secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner" as recited in Applicant's claim 34.

i. The Examiner relied upon Breed to allegedly cure the deficiencies of Nakamura et al. and McCarthy et al. However, Breed clearly fails to teach or suggest the feature of "under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner" as recited in Applicant's claim 34. Thus, Applicant respectfully submits that Breed fails to cure the deficiencies of Nakamura et al. and McCarthy et al. described above.

Responses:

a. The test for obviousness is not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

b.g. In Paragraph [0027] Nakamura recites, "using operation panel 20, the user can operate the control navigation system (1, 2, 3) and audio visual system (4, 5, 6), turn on and off camera system 7, specify the number of split areas, positions of areas, and images to display in these areas, switch the areas between left and right, and so forth; and system controller 19 sends control signals to these systems in response to the user's operation, while specifying the process operation for image converter 17, as is described above." This reads on the recited claim

language of Claim 34.

- c. In paragraphs [0035] and [0040], Nakamura describes setting the display to a user's choice and enhancing driver safety. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.
- d. In paragraph [0027], it reads "the user can specify the number of split areas, positions of areas, and images to display in these areas, switch the areas between left and right, and so forth". This describes a dynamic layout that can be customized by a user, see also paragraph [0020].
- e. Nakamura [0027] teaches changing the manner in which information is displayed ("the user can specify the number of split areas, positions of areas, and images to display in these areas, switch the areas between left and right, and so forth").
- f. This limitation is addressed with regard to Claim 35. "While the reference doesn't expressly teach changing a speedometer reading from circular-shape to a column-shape, both are displayed in Fig 4h. The description in the specification allows for changes in the display that are suitable to a driver ([0040]). It would have been obvious to one of ordinary skill in the art at the time the invention was made given the controlling means for the image ([0021]) and the motivation of improving visibility and safety (Abstract, [0035]) to have the capability to alter the image to a preferable display."
- h,i. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re*

Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Rushing whose telephone number is (571)270-5876. The examiner can normally be reached on Monday-Friday 8:30AM to 5:00PM EST (Alt Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Daniel Wu/
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